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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,715	01/28/2005	Karl Haberle	264519US0PCT	7463

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NILAND, PATRICK DENNIS

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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10/10/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/522,715

Applicant(s)

HABERLE ET AL.

Examiner

Patrick D. Niland

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/6/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-15,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-15,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Art Unit: 1714

1. The amendment of 7/6/07 has been entered. Claims 1, 5-15, and 22-23 are pending.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1, 5-15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 4663377 Hombach et al. in view of US Pat. No. 6426414 Laas et al. and US Pat. No. 4687813 Lenz et al..

Hombach discloses a water dispersible isocyanate composition containing aliphatic polyisocyanate of which only a few isocyanates are disclosed and these include isocyanurate of IPDI (column 2, lines 32-44), noting "or" and an emulsifier which is a polyisocyanate reacted with alkylene oxide in which the polyisocyanate can be one that is different from the polyisocyanate (a) (column 4, lines 6-68, particularly 6-11, particularly noting the general use of polyisocyanates which does not require the polyisocyanate to be polyisocyanate (a) and "Polyisocyanates suitable for the production of the emulsifiers include, in addition to the already above-mentioned polyisocyanates, other aliphatic diisocyanates." which shows that the emulsifier can use a different polyisocyanate than polyisocyanate (a) and that it can be one of the previously mentioned isocyanates. The previously mentioned polyisocyanates are few and one is isocyanurate of hexamethylene diisocyanate (column 2, lines 37-42) and biurets of HMDI (column 3, lines 28-36). It is noted that hexamethylene diisocyanates are most frequently listed of the isocyanates. The patentee does not specify the instantly claimed combinations of ingredients but generally encompasses them.

Art Unit: 1714

The instantly claimed emulsifiers are encompassed by column 4, lines 6-68, particularly 6-11, 18-29, 37-45, and 45-58, particularly noting the method in which the emulsifier is produced in a separate step. The resultant compound falls within the scope of the instantly claimed component C. Column 4, lines 12-14 meets the instant claim 5 and lines 17-23 meet the instant claim 6. Column 5, lines 7-12 falls within the scope of the instant claim 8. Column 5, lines 60 et seq. falls within the scope of the instant claims 9-10. The compositions of the reference are coated onto substrates when used to adhere them to other substrates (abstract and throughout document including column 6, lines 30-35 which falls within the scope of the substrates of the instant claim 12) which falls within the scope of the instant claims 11-15. Solvent is not required as evidenced by "can be added" of column 5, lines 7-12 which indicates solvent to be optional.

It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the above discussed combinations of ingredients in the compositions of Hombach because they are encompassed by Hombach, would have been expected to give the properties described by Hombach, the use of the isocyanurate of isophorone diisocyanate is expected to give hard, fast curing polyurethanes as known by the ordinary skilled artisan and discussed by Lenz, column 4, lines 28-40 and 41-50 and this improved hardness, curing rate, and other improved properties resulting from using isocyanurate of IPDI as the curing agent would have been expected where the curing isocyanate is the isocyanurate of IPDI preferred by Hombach and isocyanurate or biuret of hexamethylene diisocyanate is used to make the emulsifier of Hombach as this is the other predominantly mentioned polyisocyanate of the patentee and its properties would have been expected in the final composition, including those improved properties mentioned by Hombach. Thus, improved hardness and curing rate are

Art Unit: 1714

expected where isocyanurate of IPDI is used as the curing agent since this property is known for isocyanurate of IPDI.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the solvents of the instant claims, including claim 7, because they are known solvents for urethanes as taught by Laas, paragraph bridging columns 6-7, and are encompassed by column 5, lines 7-10 of Hombach. "Such as" is not limiting.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use no solvent, i.e. the instant claim 23, because solvent is not required by Hombach by "can be added" of column 5, lines 7-12 which indicates solvent to be optional.

There is no showing of unexpected results commensurate in scope with the prior art and the instant claims, particularly regarding amounts, molecular weights, ratios of ingredients, and the other parameters which materially affect the properties of such compositions which are not addressed by the claims, examples, nor the prior art. The application examples and comparison examples are noted. The absence of isocyanurate if IPDI is addressed above. Comparison of examples 1 and 2 would be useful. However, these examples use different molecular weight polyethylene oxides than the examples, which alone will materially affect the properties. Thus, this comparison is not useful to the examiner. The same issues are present in examples 3 and 4. No comparison with the mixtures of isocyanurates of HMDI and IPDI in situ emulsified with the ethylene oxides of Hombach, which the examiner considers the closest prior art in view of the previous anticipation rejection on this issue, is seen. The applicant's examples are deficient from this perspective also.

4. Claims 1, 5-6, 8-15, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 4663377 Hombach et al. in view of US Pat. No. 6472493 Huynh-Ba.

Hombach discloses a water dispersible isocyanate composition containing aliphatic polyisocyanate of which only a few isocyanates are disclosed and these include isocyanurate of IPDI (column 2, lines 32-44), noting "or" and an emulsifier which is a polyisocyanate reacted with alkylene oxide in which the polyisocyanate can be one that is different from the polyisocyanate (a) (column 4, lines 6-68, particularly 6-11, particularly noting the general use of polyisocyanates which does not require the polyisocyanate to be polyisocyanate (a) and "Polyisocyanates suitable for the production of the emulsifiers include, in addition to the already above-mentioned polyisocyanates, other aliphatic diisocyanates." which shows that the emulsifier can use a different polyisocyanate than polyisocyanate (a) and that it can be one of the previously mentioned isocyanates. The previously mentioned polyisocyanates are few and one is isocyanurate of hexamethylene diisocyanate (column 2, lines 37-42) and biurets of HMDI (column 3, lines 28-36). It is noted that hexamethylene diisocyanates are most frequently listed of the isocyanates. The patentee does not specify the instantly claimed combinations of ingredients but generally encompasses them.

The instantly claimed emulsifiers are encompassed by column 4, lines 6-68, particularly 6-11, 18-29, 37-45, and 45-58, particularly noting the method in which the emulsifier is produced in a separate step. The resultant compound falls within the scope of the instantly claimed component C. Column 4, lines 12-14 meets the instant claim 5 and lines 17-23 meet the instant claim 6. Column 5, lines 7-12 falls within the scope of the instant claim 8. Column 5, lines 60 et seq. falls

Art Unit: 1714

within the scope of the instant claims 9-10. The compositions of the reference are coated onto substrates when used to adhere them to other substrates (abstract and throughout document including column 6, lines 30-35 which falls within the scope of the substrates of the instant claim 12) which falls within the scope of the instant claims 11-15. Solvent is not required as evidenced by "can be added" of column 5, lines 7-12 which indicates solvent to be optional.

It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the above discussed combinations of ingredients in the compositions of Hombach because they are encompassed by Hombach, would have been expected to give the properties described by Hombach, the use of the isocyanurate of isophorone diisocyanate is expected to give hard, fast curing polyurethanes as known by the ordinary skilled artisan and discussed by Lenz, column 4, lines 28-40 and 41-50 and this improved hardness, curing rate, and other improved properties resulting from using isocyanurate of IPDI as the curing agent would have been expected where the curing isocyanate is the isocyanurate of IPDI preferred by Hombach and isocyanurate or biuret of hexamethylene diisocyanate is used to make the emulsifier of Hombach as this is the other predominantly mentioned polyisocyanate of the patentee and its properties would have been expected in the final composition, including those improved properties mentioned by Hombach. Thus, improved hardness and curing rate are expected where isocyanurate of IPDI is used as the curing agent since this property is known for isocyanurate of IPDI.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use no solvent, i.e. the instant claim 23, because solvent is not required by Hombach by "can be added" of column 5, lines 7-12 which indicates solvent to be optional.

Art Unit: 1714

There is no showing of unexpected results commensurate in scope with the prior art and the instant claims, particularly regarding amounts, molecular weights, ratios of ingredients, and the other parameters which materially affect the properties of such compositions which are not addressed by the claims, examples, nor the prior art. The application examples and comparison examples are noted. The absences of isocyanurate if IPDI is addressed above. Comparison of examples 1 and 2 would be useful. However, these examples use different molecular weight polyethylene oxides than the examples, which alone will materially affect the properties. Thus, this comparison is not useful to the examiner. The same issues are present in examples 3 and 4. No comparison with the mixtures of isocyanurates of HMDI and IPDI in situ emulsified with the ethylene oxides of Hombach, which the examiner considers the closest prior art in view of the previous anticipation rejection on this issue, is seen. The applicant's examples are deficient from this perspective also.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the combinations of HDI and IPDI trimers of Huynh-Ba and the amounts thereof which fall within the scope of the instantly claimed amounts of these compounds of the instant claim 22 to obtain the balance of hardness and curing speed taught by Huynh-Ba and Lenz and to use the amount of emulsifier falling within the scope of the instant claim 22 and Hombach (column 4, lines 5-44) that fall within the scope of the amounts of the instant claim 22 to make the aqueous dispersions of Hombach because Hombach broadly encompasses such compositions, they would have been expected to have the hardness/curing rate of Huynh-Ba and Lenz, and the benefits of aqueous compositions such as avoidance of harmful, EPA regulated, expensive

Art Unit: 1714

organic solvents, and the emulsification taught by the compounds of column 4 of Hombach would have been expected in the compositions.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 1714

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Patrick D. Niland", is positioned above the printed name.

Patrick D. Niland
Primary Examiner
Art Unit 1714